

ABSTRACT

The invention provides a therapeutic drug that uses hollow protein nanoparticles displaying an antibody against a specific cell or specific tissue. The effectiveness of the drug has been proved by animal testing. The invention also provides a therapeutic method using such a drug. In a drug according to the present invention, a substance to be transferred into a cell for treating a disease (for example, a cancer treating gene such as a thymidine kinase gene derived from simple herpes virus) is encapsulated in hollow nanoparticles of a particle-forming protein (for example, hepatitis B virus surface-antigen protein that has been modified to lack its infectivity to hepatocytes and display an antibody). The particle surface of the drug displays an antibody, such as a cancer specific antibody, that recognizes an antigen molecule displayed on the surface of a specific cancer cell.